DOCKET FILE COPY ORIGINAL

RECEIVED

JUL 30 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them	)	PR Docket No. 92-235

To: The Commission

REPLY COMMENTS OF SPACELABS MEDICAL, INC.

SpaceLabs Medical, Inc. ("SpaceLabs"), by its attorneys, hereby replies to the initial comments filed by various parties in response to the Notice of Proposed Rulemaking, 7 FCC Rcd 8105 (1992) ("NPRM"), in the instant proceeding.

I. INTRODUCTION.

SpaceLabs generally supports the Commission's efforts to reduce spectrum congestion and increase efficiency. However, as SpaceLabs demonstrated in its comments, unless the proposals set out in the NPRM are substantially altered so as to take into

addresses the existence of these services, let alone attempts to fashion a regulatory scheme amenable to their operation.

Two relevant conclusions ineluctably flow from the record in this proceeding: (1) none of the "mainstream" variations on the refarming proposal appears able to accommodate the unique needs of biomedical telemetry; and (2) assuming that the Commission will adopt one of those proposals, it should contemporaneously begin the process of allocating new spectrum to support the continued (and expanding) operation of biomedical telemetry systems.

II. BIOMEDICAL TELEMETRY SYSTEMS CANNOT SURVIVE IN THE HIGH-POWER ENVIRONMENT ENVISIONED BY THE NPRM AND VARIOUS COMMENTERS.

While all private land mobile radio service ("PLMRS") operators face problems with frequency congestion and interference, the situation is most acute for hospitals operating biomedical telemetry systems. These systems -- which operate at extremely low power levels using highly sensitive antenna systems,[1/] and which are a model of spectrum efficiency[2/] -- must provide instantaneous, continuous and error-free communication.[3/] As HP notes, while interference can be

---

1/ See Spacelabs Comments at 4; HP Comments at 3.

2/ See HP Comments at 3; SpaceLabs Comments at 11-12. Regarding the efficiencies of these devices, SpaceLabs concurs with HP that, to the extent that proposed Section 88.421(c) would be applicable to biomedical telemetry devices, the emission mask requirements must be modified to take into account the temperature range applicable to such devices. See HP Comments at 3-4.

3/ See SpaceLabs Comments at 3; HP Comments at 3.

inconvenient and costly for other kinds of PLMRS users, the potential cost of a lost or garbled transmission is incalculably higher when it involves vital information about a cardiac patient.[4/]

The problems of channel congestion and interference are expected to rise with the anticipated growth in the use of medical telemetry. Many large hospitals are expected to need to be able to simultaneously monitor as many as 500 patients, and the number of data channels needed for each patient is expected to increase from two to six.[5/] At the same time that the medical community is faced with these demands, other PLMRS users have proposed measures that would gravely exacerbate the situation by increasing the power levels for both main and splinter channels in the 450-470 MHz band.

For example, the Land Mobile Communications Council ("LMCC") has proposed that all offset channels currently designated for primary status be licensed to operate at full power, and that some offset channels currently designated as secondary should be redesignated as primary and site-specific.[6/] Such a proposal, if adopted, would effectively eliminate the 450-470 MHz band as a viable base for biomedical telemetry operations.[7/]

4/ See HP Comments at 5.

5/ See SpaceLabs Comments at 8.

6/ See LMCC Comments at 8.

7/ LMCC fails to specify how many of the offsets currently designated for telemetry will be reassigned for such

(continued...)

Associated Public-Safety Communications Officers, Inc. ("APCO") proposes a similar solution, one based on the erroneous assumption that "there is little present 12.5 kHz secondary use." APCO Comments at 16. As SpaceLabs demonstrated in its comments, at 6-7, in many large urban hospitals, all available offset channels are in use to support biomedical telemetry. That an organization such as APCO appears to be unaware of this fact aptly demonstrates the problem faced by telemetry licensees. Because of the secondary status imposed on these critical healthcare systems -- which is aggravated by the exceedingly low powers at which they operate -- they are all but invisible to the vast majority of PLMRS users.

III. BIOMEDICAL TELEMETRY SYSTEMS CANNOT SURVIVE UNDER THE CHANNELIZATION SCHEMES PROPOSED IN THE NPRM AND BY VARIOUS COMMENTORS.

As SpaceLabs and HP demonstrated in their respective comments, it is exceedingly unlikely that biomedical telemetry systems would be able to operate under the refarming bandwidth proposals.[8/] Because of the need for continuous, real-time, error-free data flow supported by a very low power transmitter, most of the efficiency-enhancing techniques available to other services (e.g., packet switching, spread spectrum) will not work

---

[7/] (...continued)
use. But, as HP points out, any reduction in the number of offset channels available for biomedical telemetry will seriously disrupt current applications

for biomedical telemetry. Indeed, the modifications to the proposals proferred by various parties illustrate the numerous areas in which the requirements of medical telemetry appear to be per se incompatible with the needs of other PLMRS users.

For example, NABER's "Bandwidth on Demand"[9/] concept would not provide any relief for biomedical telemetry operators. As SpaceLabs noted in its comments, at 12-13, channel aggregation schemes do not work for splinter channel operations, particularly given the rigid technical constraints imposed on the design of biomedical telemetry systems. Moreover, simply assigning biomedical telemetry to a "pool" of arguably related users does not solve the problem; the needs and operational characteristics of biomedical telemetry systems remain incompatible with the others with whom they would be grouped under the NABER plan.[10/] Similarly, NABER's proposals for gradual migration and for "exclusivity for efficiency" (which is based on efficiency/loading factors) is inappropriate for low-power, generally unlicensed, biomedical telemetry systems.[11/]

9/ See NABER Comments at 10-14.

10/ As HP put it, interference from hospital ambulances is no less disruptive to biomedical telemetry than that caused by taxi services. See HP Comments at 6.

11/ See SpaceLabs Comments at 14-15.

IV. THE COMMISSION SHOULD ESTABLISH A TRANSITION PERIOD OF AT LEAST TEN YEARS AND IMMEDIATELY INITIATE PROCEEDINGS TO REALLOCATE SPECTRUM FOR MEDICAL TELEMETRY.

There really is no viable alternative to establishing a separate allocation for biomedical telemetry. There can be no

private sector.[14/] If initiated now, an allocation proceeding for biomedical telemetry could be coordinated with that federal government reallocation process, in a manner that would permit telemetry manufacturers to transition to new spectrum prior to the final conversion of the 450-470 MHz offset channels to the refarming regime. This represents a rational, workable solution to the intractable problems presented by the NPRM.

CONCLUSION

Based on the foregoing, SpaceLabs requests that the Commission provide the regulatory relief needed to ensure the long-term viability of biomedical telemetry.

Respectfully submitted,

SPACELABS MEDICAL, INC.

By: _____

Jeffrey H. Olson
Susan E. Ryan

PAUL, WEISS, RIFKIND, WHARTON & GARRISON
1615 L Street, N.W., Suite 1200
Washington, D.C. 20036
Telephone: 202-223-7326
Facsimile: 202-223-7420

Its Attorneys

July 30, 1993

[14/] H.R. 2264, 103rd Cong., 1st Sess. (1993); S. 1134, 103rd Cong., 1st Sess. (1993).

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Reply Comments of SpaceLabs Medical, Inc. were mailed this 30th of July, 1993 by first class United States mail, postage prepaid, to the following:

Ronnie Rand
Executive Director
Associated Public-Safety
Communications Officers
2040 S. Ridgewood Ave.
South Daytona, FL 32119

John D. Lane, Esq.
Robert M. Gurss, Esq.
Wilkes, Artis, Hedrick & Lane